# Hypopituitarism

Hypopituitarism is the decreased (hypo) secretion of one or more of the eight hormones normally produced by the pituitary gland at the base of the brain.

The first description of hypopituitarism was made in 1914 by the German physician Morris Simmonds.

## Etiology

see Hypopituitarism after surgery

#### Traumatic brain injury

see posttraumatic hypopituitarism

pituitary neuroendocrine tumor

Giant aneurysm projected into the sellar region is a rare cause of hypopituitarism and is usually associated with atherosclerosis, fibromuscular dysplasia and pituitary radiation therapy.

Borges et al. report the case of a 78-year-old patient presenting a giant internal carotid artery aneurysm disclosed by clinical features of hypopituitarism and cranial nerves compression (optic and abducent). Computed tomographic scans, magnetic resonance images and cerebral angiography were performed and showed the aneurysm. Cerebral angiography confirmed concomitant atherosclerosis and fibromuscular dysplasia. After evaluation of risk/benefit, no surgical treatment was proposed. Replacement endocrine therapy with glucocorticoid and levothyroxine was initiated followed by a satisfactory clinical response [1)].

### Clinical Features

The signs and symptoms of hypopituitarism vary, depending on which hormones are undersecreted and on the underlying cause of the abnormality.

### Diagnosis

The diagnosis of hypopituitarism is made by blood tests, but often specific scans and other investigations are needed to find the underlying cause, such as tumors of the pituitary, and the ideal treatment.

### Treatment

Most hormones controlled by the secretions of the pituitary can be replaced by tablets or injections.

In vitro-derived pituitary hormone-producing cell types present an attractive source for repair in patients with hypopituitarism. However, several hurdles remain towards realizing this goal. In particular, there is a need to further improve the efficiency and precision with which specific hormone-producing lineages can be derived. Furthermore, it will be important to assess the potential of both ectopic and orthotopic transplantation strategies to achieve meaningful hormone replacement. The ultimate challenge will be repair that moves beyond hormone replacement towards the full functional integration of the grafted cells into the complex regulatory endocrine network controlled by the human pituitary gland [2)].

1)
Borges FZ, Ferreira BP, Resende EA, Neto EN, Borges WA, Oliveira RS, Borges Mde F. [Giant internal carotid artery aneurysm simulating pituitary neuroendocrine tumor]. Arq Bras Endocrinol Metabol. 2006 Jun;50(3):558-63. Portuguese. PubMed PMID: 16936998.
2)
Studer L, Tabar V. Human Pluripotent-Derived Lineages for Repairing Hypopituitarism. 2016 Jul 27. In: Pfaff D, Christen Y, editors. Stem Cells in Neuroendocrinology [Internet]. Cham (CH): Springer; 2016. Available from http://www.ncbi.nlm.nih.gov/books/NBK435802/ PubMed PMID: 28590707.

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